

REMARKS/ARGUMENTS

The Status of the Claims.

Claims 1 to 15, 20 to 23, 25 and 26 are currently pending. Claims 16 to 19, 24, and 27 to 66 were previously cancelled. No claims are amended herein.

The Information Disclosure Statement.

Applicants note with appreciation the Examiner's thorough consideration of the references cited in the Information Disclosure Statement (Form 1449) submitted on September 8, 2008.

35 U.S.C. §102.

Claims 1 to 4, 13, 14, 21 to 23, 25 and 26 were rejected under 35 U.S.C. §102 as allegedly anticipated by a hard-boiled egg. Claims 1, 2, 4 to 8, 14, 15, 20 to 23 and 25 were rejected under 35 U.S.C. §102(b) as allegedly anticipated by Krocpta (U.S. 5,543,164). Applicants traverse.

In order for a reference to anticipate an invention, the reference must teach each and every element of the claimed invention. That is, in order for a reference to anticipate an invention, "all limitations of the claim are found in the reference, or 'fully met' by it." *Kalman v. Kimberly-Clark Corp.*, 218 USPQ 781, 789 (Fed. Cir. 1983).

Claims are not anticipated by a hard boiled egg. As a preliminary matter, we believe Wikipedia has been specifically excluded by the USPTO as source of reference in prosecution of patents. Therefore, The "Denaturation" evidence should be disregarded in this case.

The cited "Structure of an Egg" reference is of uncertain priority date, and thus should not be considered.

Even if the above references were valid references, they still would not anticipate the present claims.

The present independent claim 1 is as follows (emphasis added):

1. A composite gel comprising:

- a) a dispersed phase comprising lipid droplets or particles;
- b) a continuous phase aqueous matrix comprising a pH ranging from about pH 4 to pH 9, and one or more cross-linked proteins not cross-linked with a divalent linker, formaldehyde, glutaraldehyde or other aldehydes; and,
- c) supplemental constituents;
wherein the dispersed phase is embedded within the continuous phase matrix; and, whereby supplemental constituents or lipid droplets, suitable for ruminant ingestion, are protected against degradation, modification, or removal from the gel during passage through a rumen.

The present rejections are based on the allegation that an egg white constitutes the continuous phase and the yolk constitutes the lipid phase. However, these allegations fail to identify at least the limitations of a "dispersed phase" of "lipid droplets". In addition, the rejection fails to allege, e.g., a dispersed phase wherein the lipid droplets are protected against degradation in passage through a rumen.

The cited yolk ("the lipid phase" of the Action, but not a term present in the claim) is not dispersed. The singular yolk is surrounded by denatured egg white but not dispersed, e.g., as droplets within the white. Further, a dispersed phase embedded in the matrix must comprise a plurality of droplets or particles, which does not exist in the egg, and is not alleged in the rejection.

The cited hard-boiled egg, would not be protected from degradation during passage through the famously intense digestion processes experienced during passage through a rumen. Nor has it been alleged. The Office's own reference acknowledges that such eggs are "digested easily, even by [human] infants".

Because the references are invalid, and do not describe all limitations of the claims, the rejection must be withdrawn.

Claims are not anticipated by Krochta. At most, Krochta teaches partially denaturing a protein to form a "denatured protein solution", (emphasis added) strictly avoiding formation of a gel. See, continuous usage of "denatured protein solution" throughout the Krochta specification, e.g., column 5, line 5; column 6, line 32; column 10, line 50; and in the claims. The denatured protein solution can be used to coat food items as a liquid, followed by drying into a dry film coat protecting the food, e.g., from external water and oxygen. Optionally, a lipid can be incorporated into the protein solution before the drying step. At no time is the Krochta product a gel, particularly not a composite gel of a dispersed phase embedded in an

aqueous protein gel matrix. Lipids are only added after the denaturation step and emulsified into the denatured protein solution by homogenization. The resultant emulsion of lipids in a protein solution is not a gel. Finally, the solution is dried to form a dry film.

The present invention is directed to, e.g., a composite gel comprising a dispersed lipid phase in an aqueous continuous phase protein gel matrix. A continuous phase matrix is described as a gel in the present specification, e.g., in the Definitions section, and at paragraphs 44 and 45. The rejection does not allege a gel in Krochta. In fact the only reference to a gel in Krochta is a warning against gel formation in the denatured protein solution. Krochta never allows his denatured protein solutions to gel because the final product structure would be disrupted by entrapped bubbles and they could not be cast to form the desired films. See, column 10 line 49. What's more, if the denatured protein solutions were allowed to progress to gels, the optionally later added lipids could not be emulsified into the gel by homogenization.

Because Krochta does not teach composite gels, the rejections must be withdrawn.

35 U.S.C. §103(a).

Claims 3, 9 to 13 and 26 were rejected under 35 U.S.C. §103(a) as allegedly obvious based on Krochta variously in light of Cook (U.S. 5,428,072), Scott (U.S. 3,925,560) and Schroeder (U.S. 5,543,164). Applicants traverse.

A proper analysis under the recently reaffirmed *Graham v John Deere* standard demonstrates the non-obviousness of the invention. According to the Supreme Court in *KSR International Co v. Teleflex* (550 U.S. ____ (2007); 127 S. Ct. 1727, 1740-41, 82 USPQ2d 1385-1396 (US 2007)), the appropriate standard for analyzing questions of obviousness is that:

the scope and content of the prior art are determined, differences between the prior art and the claims at issue are analyzed and the level of ordinary skill in the pertinent art is resolved. Against this background the obviousness or non-obviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unresolved needs, failure of others, etc. might be utilized to give light to the circumstances surrounding the origin of the subject matter to be patented.

Id. quoting *Graham v. John Deere of Kansas City* 383 U.S. 1, 17-18.

The current Examination Guidelines (e.g., MPEP 2143) and *KSR* require the Office in an obviousness rejection to provide a statement as to why one of skill would have combined known elements. Further, an obviousness rejection must include fact-based findings demonstrating: 1) a combination of reference elements describing each limitation of the claims, 2) known elements that function in the same way in the combination as in the references themselves, 3) the elements are combined by known methods, 4) the result of the suggested combination of elements would have been predictable, and 5) one of skill in the art would have expected success in providing the claim in light of the references. Here, the rejection fails each of these requirements, as applied to the *Graham* factors.

Claims 3, 9, 10 and 12 are not obvious based on Krochta and Cook. Cook does not cure the defects of Krochta, as discussed above. Cook teaches, at most, direct feeding of conjugated linoleic acid to enhance weight gain in non-ruminant animals (rats and chickens).

The combination of Krochta and Cook does not teach at least a composite gel, a continuous phase gel matrix, a dispersed phase embedded in a gel matrix, or a gel protecting constituents during passage through a rumen. Because the cited combination does not teach all limitations of the claim, it can not be considered obvious.

Assuming *arguendo* that all limitations were described in the references, the combined elements do not function in the same way in the suggested combination as in the references themselves. In Krochta, the protein solution is dried to form a dry film barrier coating providing a physical hermetic seal against water and oxygen around a food item. The known function of the coating is different and actually functions in a different way for a different result, e.g., as compared to the gels of the present invention. The known function of the dried film envelopes is destroyed when the film is broken, allowing oxidation and hydrolysis of the food. Certainly one of skill in the art would realize the known function of the Krochta films is inapplicable to protection against chewing and rumination. The cited art elements do not function in the same way in the suggested combination, thus providing no bases for an allegation of obviousness, according to MPEP 2143 and *KSR*.

Assuming all limitations, the allegation does not identify known methods of combining the cited elements that would result in the claimed composite gel. Cook feeds

linoleic directly in animal feed. Krochta at most emulsifies lipid into soluble proteins, followed by drying. Known methods do not result in any gel, let alone a composite gel capable of protection of constituents through a rumen.

There would be no expectation of success for the suggested combination of elements and methods to result in the compositions of the claims. As described above, Krochta teaches away from preparation of gels (column 10, Example 3). There would be no expectation of success in providing a rumen protected composite gel from the combination of linoleic acid with the dry films of Krochta.

With regard to dependent claims 9 and 10, the rejection includes no fact-based allegation identifying why one would find obvious the specific lipid amounts for a composite gel.

It is notable that the Office has not met the requirements of MPEP 2143, and KSR, by providing the mandatory findings of fact identifying, e.g., where all limitations can be found in the cited references, the known functions of cited elements, and why one of skill would have expected success. Because a *prima facie* case has not been made, and in fact cannot be made for obviousness based on the combination of Krochta and Cook, the rejections must be withdrawn.

Claim 11 is not obvious based on the combination of Krochta and Scott. Scott teaches the cited oils. However, Scott does not cure the defects of Krochta, as discussed above. Further, both references teach away from the independent claim. Therefore the rejection should be withdrawn.

Claims 13 and 26 are not obvious based on the combination of Krochta and Schroeder. Schroeder does not cure the defects of Krochta regarding independent claim 1, as discussed above. Schroeder teaches solidifying bulk animal feed with a cement of calcium oxide and a water soluble phosphate. The phosphate does not emulsify anything, but renders dry feed solid. Thus, the known function is different. Because the suggested combination does not teach all limitations of the claims, does not combine elements using the same known function using known methods, and would not provide an expectation of success, Applicants respectfully request withdrawal of the rejections.

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Reply to Office Action of October 28, 2008

CONCLUSION

In view of the foregoing, Applicants believes all claims now pending in this application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the claims are deemed not to be in condition for allowance after consideration of this Response, a telephone interview with the Examiner is hereby requested. Please telephone the undersigned at (510) 769-3510 to schedule an interview.

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Attachments:

- 1) A transmittal sheet; and,
- 2) A receipt indication postcard.